



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/801,456

03/16/2004

Gary R. Lauterbach

03226/358001; SUN030251

3249

32615

7590

08/19/2009

OSHA LIANG L.L.P./SUN
TWO HOUSTON CENTER
909 FANNIN, SUITE 3500
HOUSTON, TX 77010

EXAMINER

JAKOVAC, RYAN J

ART UNIT

PAPER NUMBER

2445

NOTIFICATION DATE

DELIVERY MODE

08/19/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@oshaliang.com

lord@oshaliang.com

hathaway@oshaliang.com

Office Action Summary	Application No. 10/801,456	Applicant(s) LAUTERBACH, GARY R.	
	Examiner RYAN J. JAKOVAC	Art Unit 2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,10,26-31,33 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10,26-31,33 and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3-7, 10, 26-31, 33, and 35-38 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 29, 33, and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention and/or the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. Regarding claims 29 and 37, the claims recite limitations directed towards the behavior of a virus, for example, "...wherein the virus does not target the second operating system..." This limitation was not described in the specification in such a way in order to enable one skilled in the art to be able to make and/or use a virus which targets specific operating systems. There is no disclosure in the Applicant's specification relating to the operation of the virus nor is there present an algorithm or other such instruction on how a virus would be made or would function.

Art Unit: 2445

5. Claims 1, 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim recite a first node configured to “route, based on the response and using a master-less routing policy, a request for the first replicated service from a third node of the plurality of nodes to the second node.” However, Applicant's specification does not describe a system which a first node is configured to route traffic or use a "master-less" routing policy. Rather, the Applicant's specification discloses a system where a first node fails and “the remaining nodes in the system are able to ascertain this fact and re-route network traffic” (Lauterbach, [0033-0034].).

Specification

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 1 recites the claim term “master-less routing policy” which is not present in the original disclosure.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-7, 10, 26-31, 33, and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2002/0010783 to Primak et al (hereinafter Primak) in view of US 20050125487 to O'Connor et al (hereinafter O'Connor).

Regarding claim 1, 33, Primak teaches a system comprising:

a plurality of nodes located in a single multiprocessor system (Primak, abstract, fig. 3, distributed server system.); and

a mesh interconnect connecting the plurality of nodes (Primak, fig. 1-3.),

wherein a first node selected from the plurality of nodes comprises a first router for interfacing with the plurality of nodes using the mesh interconnect and a first replicated service executing on a first operating system of the first node (Primak, [0010-0018], fig. 1-3, abstract, servers present in a server cluster route request dependant data and provide group content and/or services.),

wherein a second node selected from the plurality of nodes comprises a second router for interfacing with the plurality of nodes using the mesh interconnect and a second replicated service executing on a second operating system of the second node (Primak, [0010-0032], server cluster where selected servers route request dependant data and provide group content and/or services.); and

wherein the first node is configured to:

generate a request to replace the first replicated service when the first replicated service is unavailable (Primak, [0033-0042], a request is sent to another server of the cluster when the first service on the server becomes unavailable.),

Primak does not expressly disclose sending the request to the plurality of nodes using the mesh interconnect, receiving a response to the request from the second node indicating that the second node comprises a replacement for the first replicated service. However, O'Connor discloses this request/response system in at least [0007-0035]. O'Connor discloses that each node may be a contact centre (O'Connor, [0013], "preferably, each node is a contact centre."). The nodes as disclosed in O'Connor send a distributed request which is responded to by an available other node (O'Connor, [0018-0035].).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine this auction style distributed request system of O'Connor with the distributed cluster system of Primak to allow the originating server of Primak to offer the service request to competing clusters of the server as well as to utilize multiple bidding nodes to improve efficiency (O'Connor [0042].).

route, based on the response and using a master-less routing policy, a request for the first replicated service from a third node of the plurality of nodes to the second node (Primak, fig. 3, [0034-0039], data redirected to new cluster server.);

wherein the plurality of nodes comprises a first subset of nodes and a second subset of nodes, wherein the first node is in the first subset, and the second node is in the second subset, and wherein the first node is configured to send the request to the second subnet of nodes only when the first subnet of nodes cannot replace the first replicated service (Primak, [0033-0042].).

Further it would have been obvious to use a request/response system as claimed with the system of Primak even without the disclosure apparent in O'Connor since Primak discloses a plurality of eligible servers and distribution of service based on a consultation of stored available

Art Unit: 2445

capacity information of other servers (Primak, [0035]). It would have been obvious to use a response/request system as claimed in order to distribute the service request to available nodes where the current availability was stored on each individual node. It would have been an obvious variant on Primak to one of ordinary skill in the art at the time of the invention since an accurate measure of availability could be reliably obtained by each individual server's locally observed status information.

Regarding claim 3, The combination of Primak and O'Connor teaches the system of claim 1, wherein the second node comprises a cache indicating that the second replicated service is available (Primak, [0035], nodes store available capacity information..), and wherein the second node is configured to generate the response based on the cache. (O'Connor, [0018-0035], nodes reply based on availability to service the request..).

Regarding claim 4, The combination of Primak and O'Connor teaches the system of claim 1, wherein the first router comprises a lightweight communications protocol (Primak, [0035], Nodes communicate using UDP.).

Regarding claim 5, The combination of Primak and O'Connor teaches the system of claim 1, wherein the first router comprises a heavy-weight communications protocol (Primak, [0035], Nodes communicate using TCP/IP.).

Regarding claim 6, The combination of Primak and O'Connor teaches the system of claim 1, wherein the mesh interconnect provides at least two connection paths from the first node to the second node (O'Connor, fig. 2.).

Regarding claim 7, The combination of Primak and O'Connor teaches the system of claim 1, wherein the first replicated service is a different application than the second replicated service (Primak, [0027].).

Regarding claim 10, The combination of Primak and O'Connor teaches the system of claim 9, the combination of Primak and O'Connor does not expressly disclose wherein the first node is configured to send the first request using at least one selected from a group consisting of a broadcast message and a multicast message. However, Primak in [0032] discloses the cluster servers broadcasting their availability. It would have been obvious to one of ordinary skill in the art at the time of the invention to broadcast and/or multicasting the request as claimed since this amounts to applying a known method of transmission to a known device.

Regarding claim 26, The combination of Primak and O'Connor teaches the system of claim 3. Although Primak and O'Connor do not expressly disclose wherein the cache comprises a table having entries for each replicated service provided by the second node, Primak in [0032-0035] disclose that nodes store information about other node's capacity/availability. It would have been obvious to one of ordinary skill in the art at the time of the invention to a table as claimed since this is an obvious variation of the system provided by Primak and O'Connor.

Regarding claims 27, 28, The combination of Primak and O'Connor teaches the system of claim 1, wherein the first replicated service is unavailable when the first replicated service is busy, and when the first replicated service has failed (Primak, [0033].).

Regarding claim 36, the combination of Primak and O'Connor teaches the system of claim 35,

wherein the plurality of nodes comprises a first subset of nodes and a second subset of nodes (Primak, Fig. 1.),

wherein the first node is in the first subset and the second node is in the second subset (Primak, [0014], "each server is associated with a non-overlapping sub-range of connection values associated with the cluster").,

wherein the second node is configured to send the request to the first subset of nodes only when the second subset of nodes cannot provide the service (Primak, [0033-0042], a request is sent to another server of the cluster when the first service on the server becomes unavailable.). The combination of Primak and O'Connor does not expressly disclose wherein each of the first subset of nodes and the second subset of nodes includes at least three nodes. However, varying the amount of nodes in a subset would have been obvious to one of ordinary skill in the art at the time of the invention since this amounts to mere design choice.

Regarding claim 29-31, 37-38, the combination of Primak and O'Connor teaches the system of claim 1, the combination of Primak and O'Connor does not expressly disclose wherein the first operating system is different than the second operating system. However, it would have been obvious to one of ordinary skill at the art at the time of the invention to use a plurality of operating systems, for instance, on the servers of Primak, since this amounts to the simple substitution of one element for another yielding predictable results.

Regarding claim 35, the combination of Primak and O'Connor teaches a system comprising:

a first node comprising a first router, a first application executing on a first operating system for performing a service, and a cache table having an entry indicating an availability of the service on the first node; See also, [0032], [0035], servers store available capacity information.

a second node comprising a second router and a second application executing on a second operating system for performing the service, wherein the second node is configured to send a request to replace the service to the first node after failure of the second application (Primak, [0033-0042], a request is sent to another server of the cluster when the first service on the server becomes unavailable.); and

a mesh interconnect connecting a plurality of nodes including the first node and the second node (Primak, figs. 1-3.),

wherein the first node is configured to examine the entry in the cache based on the request to replace the service with the entry and send a response to the second node using the

Art Unit: 2445

mesh interconnect (O'Connor, [0013], "preferably, each node is a contact centre." See also [0018-0035].),

wherein the second node is configured to route, based on the response and using a master-less routing policy, a request for the service from a third node to the first node based on the response (Primak, fig. 3, [0032-0039], data redirected to new cluster server.), and

wherein the first application is different than the second application (Primak, [0008], [0027].).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine this auction style distributed request system of O'Connor with the distributed cluster system of Primak to allow the originating server of Primak to offer the service request to competing clusters of the server where the servers store available capacity information as well as to utilize multiple bidding nodes to improve efficiency (O'Connor [0042].).

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2445

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN J. JAKOVAC whose telephone number is (571)270-5003. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ryan Jakovac/

/VIVEK SRIVASTAVA/

Supervisory Patent Examiner, Art Unit 2445